



The model HE-3-SOSV-S is a
used in combination with the
[Bruker IFS 66 v/s](#)
on
[Beamline 1.4.2](#)

special optical cryostat manufactured by [Janis](#) . It can be

Optical windows with clear view size of 0.5" are installed on the vacuum
shroud, as well as both the liquid nitrogen and liquid helium temperature

radiation shields. A special sample positioner with rotary/linear motion manipulator is installed at the top of the sample positioner so that the sample can be moved up and down, as well as rotated. OFHC copper braids are employed to provide the flexibilities of motion and rotation. A double optical sample holder is installed at the bottom of the sample positioner for reference and sample measurements.

This He-3 cryostat includes the following components:

- Highly efficient liquid nitrogen shielded helium dewar
- Liquid nitrogen temperature radiation with optical windows
- Liquid helium temperature radiation with optical windows
- 1 K radiation shield
- Charcoal sorption pumps with heaters and thermometers
- 1 K pots with thermometers
- He-3 pots with heaters and thermometers
- He-3 gas
- Sample probe with rotary/linear motion manipulator
- Sample mount with heater and thermometer
- Operation test

Performance Specification with two sets of 0.25" clear view quartz windows installed:

Holding Time:	24 hours	min Base Temperature:	0.25 K
Operation Temperature Range:	0.25 K to 1.5 K	Sample Mount Base Temperature:	0.25 K
Typical Sample Space:	1.5"	Operation Temperature Range:	0.25 K to 1.5 K
Sample Z-motion:	+5 mm	Sample Mount Base Temperature:	0.25 K
Sample Rotation:	+/- 90 degree	Operation Temperature Range:	0.25 K to 1.5 K

For more information, see the [He-3 Cryostat Internship Report](#) by Yangsanak Bounthavy, and

the [Design and Construction of
Vacuum Chamber for Far-Infrared Coupling to He-3 Cryostat Internship Report](#)
by Maxime Chevillon.